

METHOD OF OPERATING AN ENERGY SYSTEM USING LOAD PROFILE PARAMETERS**Abstract**

5 An energy system is formed of a plurality of battery cells, and has an application associated therewith that draws power from the energy system, thereby creating a load profile that is presented to the energy system. As the application is being used, voltage and current measurements are taken at a predetermined rate, and stored in a history table to create a series of time-based measurements. The measurements stored in the history table are
10 then processed to produce an energy spectra and a power spectra corresponding to the load profile presented to the energy system by the application. A charging strategy in accordance with this energy spectra and power spectra is then defined and used to charge the energy system appropriately.

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